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plate. This maximum for bromide-of-silver plates is near wave-length 434$\mu\mu$.

"In No. 2464 of the *Ast. Nach.** Dr. G. MUELLER has printed an extinction-table for different wave-lengths. This table does not extend so far as wave-length 434, but the corresponding values can be extrapolated with great accuracy."

[These values are as follows:

Photographic Atmospheric Absorption in Magnitudes for a Wave-Length 434$\mu\mu$.

ALTITUDE.	ABSORPTION.	ALTITUDE.	ABSORPTION.
15°	1.28 mags.	23°	0.66 mags.
16	1.18 "	24	0.60 "
17	1.08 "	25	0.55 "
18	1.00 "	26	0.50 "
19	0.93 "	27	0.47 "
20	0.86 "	28	0.45 "
21	0.80 "	29	0.42 "
22	0.73 "	30	0.40 "]†

"From my observations (in the *Pleiades*) of November 22, I found the increase in magnitude from 18°.6 to 29°.0 altitude to be 0.53 magnitude. The table gives exactly the same result. Although this complete agreement is naturally but accidental, yet it indicates that the assumption just made is approximately correct, and that MUELLER's extinction-table can be used with advantage until the publication of further investigations on this subject."—E. S. H.

MEDALS OF THE COMETS OF 1618 AND 1680.

Apropos of a note on the medal of the Comet of 1680 (*Publ.* A. S. P., vol. II, p. 124), Professor DUNÉR, Director of the Observatory of Upsala, in a letter recently received, calls attention to passages from two works‡ by J. H. MAEDLER, which describe a somewhat similar medal for the Comet of 1618. The medal is said by

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* Not No. 2964, as printed in the *Ast. Nach.* 2969.

† The paragraph in brackets was obligingly communicated by Dr. SCHEINER in a private letter.

‡ These works are a translation of Dr. J. R. HIND's book on *Comets* (p. 116) and MAEDLER'S *Astronomische Briefe.* Neither of these is in the Lick Observatory Library.

MAEDLER to have been struck by a Danish King, who must have been, according to Professor DUNÉR, King CHRISTIAN IV, the same who drove TYCHO BRAHE out of Uraniburg.

On the obverse, this medal displayed "a crowd of persons prostrate on the earth, and above them a terrible comet," and the reverse contained the following inscription:

> "GOTT GIB, DASS UNS DIESER KOMET-STERN
> BESSERUNG UNSERS LEBENS LERN! 1618."

or, set over into English, *God grant that this comet may teach us to amend our lives.*

Perhaps some of the correspondents of the A. S. P. can refer to a published engraving of this medal.

Professor R. WOLF, Director of the Observatory of Zurich, kindly refers me to his *Astronomische Mittheilungen*, No. 68, in which he has described a medal of the 1680 comet, which was presented by him to the Observatory of Zurich in 1887. E. S. H.

THE *SOUTHERN CROSS*—AND THE REPUBLIC OF BRAZIL.

The coins of the new Republic of Brazil bear (on the reverse) the effigy of the five chief stars of the constellation *Crux*, surrounded by the twenty-one stars which symbolize the separate provinces of the Republic.

The adoption of an astronomical symbol by the new confederacy is, perhaps, worthy of this passing note in an astronomical journal. E. S. H.

ON A BLACK TRANSIT OF THE IV SATELLITE OF *JUPITER*, OBSERVED ON AUGUST 13, 1890, WITH THE TWELVE-INCH EQUATORIAL OF THE LICK OBSERVATORY.

On the night of August 13th, while observing *Jupiter*, I saw what at first I took to be the shadow of one of the satellites on the disc. Referring to the Nautical Almanac, I found that it must be the IV Satellite in one of its black transits. Careful observations were made of it throughout the remainder of its transit. With all powers up to 500 on the twelve-inch it was perfectly black and round. No markings of any kind were seen on its disc. It was some distance preceding two of the singular small black spots that have appeared on the north edge of the equatorial belt, and was as near as possible at the same latitude. The surface of *Jupiter* rotating faster